

# AMATEUR RADIO

OCTOBER  
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

## Just Arrived from Overseas!

### A New QUICK HEATING Valve for Mobile Services

# PHILIPS QQCO4/15



The new Philips Double Tetrode type QQCO4/15 combines compactness, stability, and maximum output at 185 Mc/s.

**ECONOMY OF OPERATION** makes this valve ideal for use in mobile equipment. The directly heated filament requires only 6.3 volts at 0.68 amperes.

An important departure from the conventional type of double tetrode is that the anodes are brought out at the base and not at the top of the bulb. This feature facilitates wiring and allows a better orientation of components.

#### TYPICAL RATINGS FOR CONTINUOUS SERVICE

Frequency	185 Mc/s.	Screen voltage	200 V.
Anode voltage	400 V.	Screen current	8 mA.
Anode current	2 x 30 mA.	Bias	-80 V.
Watts output — 19.5 W. (Two systems in p.p.)			

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

**SYDNEY:**

Philips House,  
69-73 Clarence Street.

**MELBOURNE:**

590 Bourke Street.

**BRISBANE:**

Reid House,  
145 Edward Street.

**ADELAIDE:**

Wyatt House,  
119 Grenfell Street.

**PERTH:**

381-5 Murray Street.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

9<sub>D</sub>.

# "HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

## BARGAINS — BARGAINS — BARGAINS

AMR300, S.T.C., band coverage 1.4 Mc. to 24 Mc., Crystal Filter, nine Valves, two R.F. stages, fly wheel tuning, Noise Limiter, etc., S Meter and Speaker ..... £50.

Eddystone 640. Complete with S Meter, Instruction Book, few months old. .... £57/10/-.

BC348, Single Ended Valves. Complete with Power Supply, Crystal Filter, 200 Kc. to 18 Mc. Excellent condition ..... £45.

ARS RECEIVERS, A.W.A., 11 Valves, 150 Kc. to 25 Mc. less Power Supply. Tested and working 100% .... £20.

Army Amenities Australian Sound System Dual Wave Receiver. Complete with Vibrator Pack. Very clean condition. One only ..... £17/10/-.

American A.M./F.M. Receiver, 27 Mc. to 39 Mc., 10 Valves, four-gang Condenser, and Speaker. Uses 6AC7s, 12SG7, 6SL7, 6H6, 6V6. One only, as traded ..... £19.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands. 35/-.

813 Valves ..... £3 each.

6AK5 Valves ..... 17/6 each.

English Transceivers, frequency unknown. Nine Valves including one EF50, one VT501, one EL32, two EF39, one EK32, one EBC33, two EF36. Check full of useful parts, relays, genemotor, etc. .... £6 each.

American Transceivers, Hi-Frequency L.F.F. Tube line-up: three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor ..... £3.

Complete with 18 Volt type Genemotor ..... £4.

English L.F.F. Units. Tube line-up: two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF. 1,000 v.w. Block Condenser, Genemotor 11-12 v. input at 3.8 Amp., output 480 v. 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new. .... £2/10/-.

High Frequency Receivers (unmodified), English Type R3084A, Slug Tuned R.F. and Mixer Stages. Two RL7s, one RL16, seven EF50 L.F. Stages. Aerial switching motor. Easily converted to 144 Mc. band. Few only £7/10/- ea.

High Frequency Receiver, Australian AR301, uses three 954s, one 995. Six 6AC7 L.F. Stages at 30 Mc. Easily converted to 144 Mc. .... £10 each.

Prop. Motors, suitable for beams, 23 volts input .... £5

### VALVES, Tested, Out of Disposals Gear

10/- each—

7/6 each—

1625	6F6	2X2	12SK7
1626	6N7	879	12SJ7
1629	12A6	6G6	12SH7
6SL7	VR159	12SG7	6B4
6SN7	12SR7	12AH7	6K7
6SA7	RK34	12J5	2A3
6AC7			

# "HAM" RADIO SUPPLIERS

(KEN MILLBURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

Published by the Wireless Institute of Australia,  
Law Court Chambers, 191 Queen Street,  
Melbourne, C.1

**EDITOR:**

T. D. HOGAN, VK3HX,  
Telephone: UM 1732.

**MANAGING EDITOR:**

J. G. MARSLAND, VK3NY.

**TECHNICAL EDITOR:**

J. C. DUNCAN, VK3VZ.

**ASSISTANT TECHNICAL EDITOR:**

A. K. HEAD, VK3AKZ.

**COMPILATION:**

R. W. HIGGINBOTHAM, VK3RN.

**LIAISON:**

I. K. SEWELL, VK3IK.

**CIRCULATION:**

S. I. ZEUNERT, VK3SZ.

**ADVERTISING REPRESENTATIVE:**

W. J. LEWIS,  
20 Queen St., Melbourne, C.1,  
Telephone: MU 5154.

**PRINTERS:**

"RICHMOND CHRONICLE,"  
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia  
(Victorian Division) Rooms' Telephone is FJ 6897.

**— IN THIS ISSUE —**

Compact 75 Watt Modulator ....	3
Modifications to AR8 Receiver ..	5
Amateur Emergency Work During Kempsey Floods .....	7
The Old Man .....	8
Questions and Answers .....	9
Ionospheric Predictions for the Amateur Bands .....	10
Disposals .....	10
1948 VK-ZL Contest Results .....	12
W.A.S. (Aust.) Rules .....	12
"CQ's" World-Wide DX Contest .....	12
Fifty Megacycles and Above .....	13
Federal, QSL, and Divisional Notes .....	14
Correspondence .....	20

**EDITORIAL**



## THE AMATEUR'S CODE

Many years ago, somewhere about the time the A.R.R.L. came into existence, some very wise men laid down a code of ethics for the Radio Amateur. The times and techniques have changed, but one thing remains unchanged—the Amateurs' Code. For the benefit of those who have forgotten and the edification of those who don't know it, we present it in all its brevity and truth.

### 1—THE AMATEUR IS GENTLEMANLY.

He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the pledges given by the W.I.A. on his behalf to the public and the Government.

### 2—THE AMATEUR IS LOYAL.

He owes his Amateur Radio to the W.I.A. and the I.A.R.U., and he offers it his unswerving loyalty.

### 3—THE AMATEUR IS PROGRESSIVE.

He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.

### 4—THE AMATEUR IS FRIENDLY.

Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance and co-operation for the broadcast listener; these are marks of the Amateur Spirit.

### 5—THE AMATEUR IS BALANCED.

Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school or his community.

### 6—THE AMATEUR IS PATRIOTIC.

His knowledge and his station are always ready for the service of his country and his community.

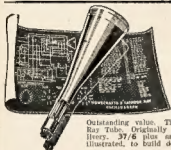
The above principles should need no clarification—it is there in all its stark truth. Read and inwardly digest. If your memory is good, remember well—if it isn't, cut this out and keep it on your operating desk.

—W. T. S. M.

# Homecraft

PTY. LTD.

## LARGE STOCKS— GREATEST BARGAINS



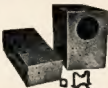
### BUILD YOUR OWN DE LUXE OSCILLO- GRAPH

Outstanding value. The famous 6BP1 Cathode Ray Tube. Originally cost £16. Immediate delivery. 37/6 plus sales tax. Blue print, as illustrated, to build de luxe Oscillograph, 1/6.

Sockets for 6BP1 tube, 9/6 each.

Cathode Ray Oscillograph Cabinets. Black crackle finish, steel drilled cabinets and chassis, complete with brackets. As illustrated, 87/6.

Power Transformer for 5 in. Cathode Ray Oscillograph, price 59/.



Outstanding Valve Bargain. Type 6K7G, equivalent to type 6U7G. Electrically perfect. Loose base only. Bargain, 4/11.

### WAVE CHANGE SWITCH BARGAINS

Single bank oak double sided—  
8 x 2 switches—2/11.  
2 bank 8 x 2—2/11.  
2 bank 8 x 2 single sided—2/11.  
4 bank band spread type—3/11.



JUST ARRIVED. The new English Col-laro record changer. Type RC49. This modern streamlined record changer is fitted with a high fidelity crystal pick-up and will change eight 10-in. and 12-in. mixed records. Price, as illustrated, only £14/8/6 complete.



SUPER METER BARGAIN. English Metropolitan Vickers 0-1 d.c. Moving Coil. 6-1 Ma. Meters with 2 in. scale. Brand new in original cartons, only 29/6.



New R.A.I. High Fidelity Crystal Pick-up Heads. Suitable to replace all Collaro or Garrard Magnetic Pick-ups. When ordering, advise if required for Garrard or Collaro pick-ups. Price 45/.



MORSE KEY BARGAIN. Brand new Army type Morse Keys. Small type, as illustrated, only 1/11. Large type, as illustrated, only 2/11.



The new Pabco VCT2 Valve and Circuit Tester. This outstanding instrument is now available for immediate delivery. 10,000 ohm per volt. Will test 800 types of valves. Price complete £23/15/- plus sales tax. Easy terms, £7/10/- dep., 15/6 weekly.



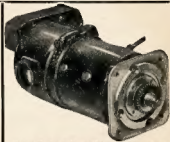
Now available for immediate delivery THE NEW 12/0 ROLA SPEAKER This amazing new 12 in. Speaker incorporates an entirely new magnet system making full use of the new Anisotropic Alnico Magnet. Also a specially designed diaphragm and a power handling capacity of 7 watts. Price, as illustrated, £3/11/6.



Bargain Radio Chassis. 5-v. steel drilled standard chassis. As illustrated, 1/11 each or 19/- dozen.



PICK-UP BARGAIN. English Com-mo-chord Crystal Pick-up. Stream-lined bakelite Crystal Pick-up. As illustrated, reduced from £3/7/9 to 39/11.



R.A.A.F. 24 volt, 1,500 watt high charging rate generator. Super disposal bargain. Originally cost over £60. Our price only £13/15/-.



Super Transmitting Tube Bargain. Brand new American imported Eimac 100TH Tubes. As illustrated. Reduced from 5 Gns. to 49/6.



E.M.A. Type F (faceted) Jewels. wide vision type with nut and screw for 1 in. hole mounting. 1/9 each. With back loading pilot light assembly, 3/9 each. Front loading type, 6/- each. Colors: Red, Green. Finish: Nickel Plated.



BAKELITE CABINET, STEEL CHASSIS. BAFFLE PLATE AND DIAL ASSEMBLY. Bargain for the set builder. Complete, as illustrated. Price only 45/-.

COUNTRY AND INTERSTATE CLIENTS PLEASE ADD FREIGHT OR POSTAGE.

290 LONSDALE STREET, MELBOURNE

Central 4311

# Compact 75 Watt Modulator

A & R Modulators, Type M2-75 and M3-75, are complete units (less power supplies) designed for voice frequency modulation of a transmitter, and each is capable of 75 watts audio output at the secondary of the modulation transformer when terminated in a suitable load, and used in conjunction with adequate power supply equipment.

The units are available ready for use (less valves and cabinet), assembled, wired and tested, and any or all of the major components may be purchased separately. The chassis, panel, handles, and brackets, etc., are also supplied separately in sets.

Both types are similar, except that M2-75 includes a two stage pre-amplifier for use with a high impedance microphone and M3-75 is provided with a 600 ohm line input transformer (no preamp.) requiring an input level of 1 millivolt or 0.75 volt (zero d.b.m.) for full output.

Each unit of either type includes a negative peak clipping circuit with a special filament transformer for the valve.

The modulator circuit is based on information appearing originally in R.C.A. "Ham Tips," re-printed in "Amateur Radio, August, 1948, and "Radio-News," July-August, 1949, showing a method of using 807 valves as zero bias Class B modulators. Tests have proved that this system produces the results

Here are the details of a compact 75 Watt Modulator, based on the circuit, of 807s as zero bias Class B triodes, that appeared in "Amateur Radio," August, 1948. A & R Electronic Equipment Co. Pty. Ltd. advise that they are now manufacturing Modulation Equipment suitable for use by Amateurs, and provide the following information, illustrations, circuit, etc.

tions were made to the original circuit in order to produce the required frequency response. The pre-amplifier provides sufficient gain for most high impedance type microphones.

Test results were as follows:—

The frequency response was taken overall from the input of the driver valve to the secondary of the modulation transformer, terminated in a resistive load of 10,000 ohms, and with 100 Ma. d.c. through secondary winding.

At full output of 75 watts the frequency response was within 1.5 db from 200 to 7,000 c.p.s. The distortion present at full output over the frequency range was quite low and aural tests showed that the speech quality was excellent. The response of the pre-amplifier stages can be modified to suit a particular microphone by altering the coupling condenser values and in the case of a crystal microphone by reducing the resistor value from grid to earth on the first valve. It will be noted that the low frequency response falls off below 200 c.p.s., the transformers being designed to aid in this respect.

Reduction of the high frequency response and harmonics produced by the negative peak clipping valve is also desirable, and can be

achieved by the use of a filter or to a degree by a suitable by-pass condenser.

It is well known that speech waveform is of a very peaky nature, and this means generally that either a low average modulation level must be tolerated, or some means must be provided to overcome this limitation. Without suitable precautions, an increase of the audio gain above a certain level will cause some of the higher negative voltage peaks at the modulation transformer secondary to exceed the final r.f. stage d.c. plate voltage. This will reduce the effective voltage acting on the r.f. stage to zero for the period of time that there is no positive voltage applied, thus causing discontinuity of the carrier power and so-called splatter takes place.

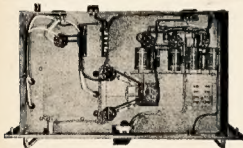
Volume compression and a.m.c. circuits reduce the peaks and increase the average modulation, but the time constants normally used allow high speed

speech peaks of some frequencies to pass through to the modulator output circuit. The solution to this is to add a high level negative peak clipping valve with a low pass filter following.

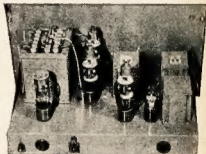
The negative peak clipping circuit is included in the modulator so that those who use the equipment will be provided with the basis for possible improvement of their transmissions if they desire a high average modulation level with minimum interference to other stations.

It is not claimed that the best results will be possible without a low pass filter between the modulation transformer and the r.f. final stage of the transmitter, although useful suppression of high frequency response can be obtained by providing as large a capacitance as possible (2,000 v. w.) in the position marked CX in the circuit. A filter, if used, will carry the final stage d.c. current and the audio frequency currents. The condensers and reactors should be able to withstand the maximum working voltage continuously; i.e., approximately 2,000 volts r.m.s. at full audio output and 1,000 volts d.c. It is best to use "air core" reactors for the reason that less trouble will be experienced from noisy operation under heavy modulation.

Details of the design and operation of suitable filters, and of other methods of reducing the r.f. channel width will be found in "QST," April, 1948; R.S.



Underneath view of the Unit.



Rear view of the Modulator Unit.

claimed and does this without the usual complications of bias and screen voltages, etc.

Considering the popularity and low price of 807 valves, this circuit has much to commend it. In designing the mechanical layout of the modulator, it was apparent that the most useful and universal arrangement would be a standard 19" x 10 1/2" rack mounting panel and chassis, as this can also be mounted in a metal cabinet, which is available for this panel size.

External finish of the equipment is grey brocade, with chrome plated handles and panel screws.

A complete modulator unit with pre-amplifier was designed, built and tested as a prototype, and all relevant tests were made including actual operation with a 100 watt transmitter. The performance of the modulator was very satisfactory, after one or two modifica-

G.B. Bulletin, February, 1949, and in other publications.

The following description and details of operation of the M2-75 modulator apply also to the M3-75 unit, allowing for the difference previously explained.

Type M2-75 modulator includes pre-amplifier stages, and is intended for use with a high impedance microphone. The overall gain is more than sufficient for full output using a D104 type crystal microphone. A 6J7 metal valve was used in the original unit, and should this type be difficult to obtain, a 6J7G would be quite suitable if provided with a metal shield to completely enclose the valve, grid resistor and r.f. filter circuit. A single ended valve, such as a 6S37 is not recommended. The second valve is a high gain triode type 6SQ7, and this valve and the following valves are readily obtainable.



It was found that a single 807 valve as a tetrode provided adequate driving power for the modulator valves, when used as shown in the circuit diagram. Negative feedback was not necessary, as the distortion visible on the c.t.o. screen was not excessive at 75 watts output, over the voice frequency range for which the unit was designed.

The driver transformer is a type specially designed for use in this circuit, but the modulation transformer is a semi-universal type suitable for use with many other Class A, AB<sub>1</sub>, AB<sub>2</sub>, or B circuits, using such valves as 807s, 808s, 830Bs, etc. The maximum signal modulator valve plate current should not exceed 150 Ma. d.c. per side of c.t. on the primary side, and the d.c. current through the secondary should not exceed 150 Ma. A maximum d.c. voltage of 1,000 may be applied to the primary and/or secondary windings. The transformer is fitted with a spark gap to provide protection against excessive peak voltages which may occur in the event of loss or reduction of load during transmitter adjustment or tuning operations.

This gap should be carefully adjusted so that during full modulation the points

are as close as possible, but do not spark over under normal peaks.

The modulation transformer has been carefully designed and is not likely to break down with normal use if the maximum voltage and current ratings are not exceeded. The primary and secondary impedance ranges should be suitable for most modulator and transmitter valve combinations usual with a transformer of 75 watts rating.

#### MODULATION TRANSFORMER IMPEDANCES

PRIMARY	SECONDARY
1 H.T.-I	7-8 4,000 ohms
2-2 3,800 ohms	7-9 5,000 "
3-3 5,000 "	7-10 6,000 "
4-4 6,800 "	7-11 8,000 "
5-5 8,500 "	7-12 10,000 "
6-6 10,000 "	

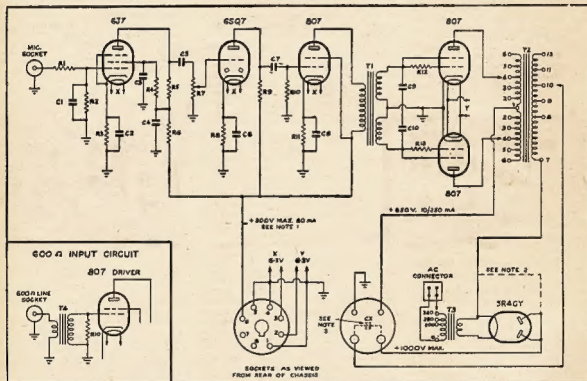
It is necessary now to point out that full power output with low distortion from this or similar audio equipment, is not possible without power supplies having the necessary voltage regulation

under minimum to maximum signal conditions.

The power supply for the pre-amplifier and driver stages should provide 275/300 volts at about 80 Ma. with sufficient filament windings for all valves (except the 5R4GY). It is advisable to check the filament voltages at the valve sockets, as low voltage, particularly on 807 valves, is to be avoided.

The power supply for the modulator valves is most important, and should be a separate unit with good regulation. The voltage output should be approximately 650 volts at the no signal current of 10 Ma., and should not drop to less than about 600 volts if full output of 75 watts is required, the maximum signal current for both valves being approximately 220 Ma. It is possible to use up to 750 volts (maximum at no signal) on the valves, and obtain the power output with poorer power supply regulation. A power supply with good regulation and additional current capacity may also be used for both the modulator valves and the Class C final r.f. amplifier.

(Continued on page 5)



- T1—Type IF588 A & R Transformer.  
T2— " MT15 " "  
T3— " PT1516 " "  
T4— " IT583 " "

- C1—50 pF. Mica.  
C2, C6, C8—10 uF. 40 v.p.  
C3—0.1 uF. 200 v.w.

- C4—8 uF. 525 v.p.  
C5, C7—0.01 uF. Mica.  
C9, C10—400 pF. Mica.  
CX—2,000 volt working, see text.

- R1—20,000 ohms,  $\frac{1}{2}$  w.  
R2—5 megohm,  $\frac{1}{2}$  w.  
R3—1,500 ohm,  $\frac{1}{2}$  w.  
R4—1.5 megohm,  $\frac{1}{2}$  w.  
R5—0.25 megohm,  $\frac{1}{2}$  w.  
R6—50,000 ohms,  $\frac{1}{2}$  w.  
R7—0.5 megohm pot.  
R8—5,000 ohm,  $\frac{1}{2}$  w.  
R9—0.25 megohm,  $\frac{1}{2}$  w.  
R10—0.5 megohm,  $\frac{1}{2}$  w.  
R11—225 ohm,  $\frac{3}{4}$  w.  
R12, R13—20,000 ohm,  $\frac{1}{2}$  w.

#### NOTES

1. If voltage exceeds 300, reduce with a resistor and by-pass with an 8 uF. condenser.
2. Short circuit plates to filament if negative peak clipper is not required.
3. Up to 0.01 uF. by-pass may be required (inc. r.f. by-pass).

# Modifications to the ARS Receiver

BY L. W. JOHNSON\*

The original parts from an ARS are re-built on an aluminium chassis in the writer's case employing the h.f. unit only. All values of condensers, resistors, etc., are the same as original and the wiring is copied from the R.A.A.F. circuit.

The modifications effected are as follows:—

1. A 6V8 output tube has been added after the final (diode-triode) stage.  
2. An 0-10 Ma. meter, with a low resistance shunt (an old rheostat), is inserted in the cathode circuit of the r.f. and mixer tube, making an effective S meter. (An 0-1 Ma. would be more effective still.)

3. Band spread is effected by the addition of three 2-plate midget condensers, ganged, in parallel with the main tuning condenser.

By disconnecting one 5 pF. trimmer from the oscillator section of the gang and bending the small band spread condenser plates, good tracking can be obtained; ordinary midget 3-plate condensers, with one fixed plate removed, being used. This is sufficient to cover the 30 metre band, but two bites are needed for 40 metres.

It was found that it is very hard to track the set correctly again if trimmers are used. It apparently upsets the balance very badly.

The band spread condensers are mounted very close to the gang, in the writer's case, being bolted onto the actual frame. The drive to the dial is accomplished by two sprockets and some Meccano chain. There are two sprockets in the ARS suitable for this purpose—they connect the tone control to another control in the original version.

To anyone re-building ARSs, the following suggestions are made to avoid some common pitfalls.

Don't get the i.f. transformers mixed. They also contain condensers and resistors as well as coils. Don't try and re-build the coil units unless it is absolutely necessary. They are a real headache. The writer's coil unit is mounted on one end of the chassis with the leads to the i.f.s., h.t., etc., coming through the bottom of the chassis.

If any alterations, such as re-arranging of parts, etc., takes place, get a good oscillator to line up on. You can be 100 Kc. out on the i.f.s. and still get good results, but lined up properly makes a big difference. You can not line an ARS up by ear and get the best from it. The i.f. frequency is 755 Kc.

300 volts h.t. from an ordinary power pack is quite satisfactory for the h.t. supply with no excessive heating.

When all boiled down the circuit is quite conventional and a good receiver for Amateur use if a little band spread is added.

The ARS series Disposals Equipment has been very popular with Amateurs throughout Australia, due mainly to its convenient size and convertibility, and these suggested conversion methods are submitted to help the new Amateur who want a cheap, reliable receiver for use on the low frequency bands.

BY R. TORRINGTON,† VK3TJ

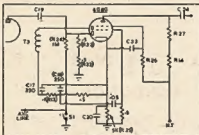
Replaced V5 (6J7) with 6V6 and changed bias resistor. Removed T4, C30 and C31, as speaker used (an electro-dynamic) had speaker transformer attached.

Re-wired all heaters for 6 volt operation, deleting the dropping and balancing resistors, also chokes and filter condensers (R11, R32, L2, C110, C32, C34, etc.).

Re-ground the conductors leaving the receiver into power supply socket, thereby leaving the junction box socket vacant. A plate was made for this hole and the telephone jack fitted in lieu of junction box socket.

Removed T5, microphone transformer, and joined ends of R14 and R27.

Removed V6 (6X5), associated resistors, and wiring.



Schematic of Modified 2nd Detector.

I was interested in operating this receiver over the entire frequency range offered (not only the Ham bands) and found great difficulty in getting near perfect tracking on all bands despite the trimmers and slugs provided. It was decided to provide adjustable trimmers to aerial and r.f. stages. Accordingly, trimmers C104, C105, C106 (aerial), C114, C115 and C116 were removed and (after experimentation) a 5-plate midget variable "Wetless"—2 moving, 3 fixed plates—about 30 pF. was found to be suitable capacity range for resonating all frequencies from 2 to 20 Mc.

Owing to the variation in capacity required at different frequencies, it will be found difficult to satisfy all conditions and some alterations to the fixed capacities (C109, 135, 120, 136) may be necessary. As manual trimming is to be installed, the temperature compensators are not really necessary. In my case it was necessary to remove C135.

† Thistle St., Pascoe Vale Sth., Victoria.

It was possible to mount the variable condensers in the position previously occupied by the semi-fixed trimmers and the hole provided for access to C105 and C115 was used for mounting purposes. With the type of condenser used, satisfactory clearance of the ends of the coils is obtained. The connection for the stator plates was made from the point to the wave-change switch to which the main gang is connected.

While, perhaps, the improvement is not quite so marked on the lower frequencies, a definite improvement has been made to band "F" and a definite peaking of signals on the 14 Mc. band is a distinct improvement and advantage.

Modified the second detector as follows:—

(a) Removed the audio a.v.c. from grid No. 1 of 6G8G.

(b) Removed audio pot. R18 and replaced with 0.5 meg. resistor (taken from R21).

(c) Eliminated switching—detector stage is same for c.w. and phone. The "Phone-C.W." switch still performs two functions in the c.w. position, i.e., earths the a.v.c. line and applies h.t. to the b.f.o.

The r.f. gain is now the only gain control.

## COMPACT 75 W. MODULATOR

(Continued from page 4)

The degree of voltage regulation required can be obtained by using 866a rectifier valves, with a choke input filter (preferably a swinging choke) and a second filter choke, both with low d.c. resistance of the order of 50-60 ohms. The filter condensers may be 2 uF. after the first choke and 4 uF. after the second choke.

For those who wish to assemble and wire their own unit, illustrations show the layout of the various components. All necessary holes are included in the chassis and panel assembly.

The top view of the M2-75 modulator shows the 600 ohm input transformer mounted in the r.h. corner near the panel. This transformer is not normally fitted unless the pre-amplifier is omitted as in Type M3-75 modulator. A cover plate is provided for the mounting hole. Behind the 807 driver valve is seen the driver transformer, to the right is the 6SQ7 valve, and at the extreme right is the die cast case shielding the 6J7 valve and R1, R2 and C1. A taller metal shield would be required if a 6J7G valve is to be used.

The underneath view shows the location of the filament transformer T3 adjacent to the 5RAGY socket, and the a.c. mains connector on the back of the chassis. The four-pin power socket is near the earth terminal, the eight-pin power socket being at the back r.h. end of the chassis. At the front from left to right is the pilot lamp socket, volume control and microphone connector.

When wiring, make all earth connections to a bus-bar, and earth at one point only on the chassis.

\* 17 Grovedale Road, Surrey Hills, E.10, Victoria.

# HAMS and HOBBYISTS!

These and many more Spring Snaps at

# VEALLS

## "UNIVERSITY"

S.G.A.

## Signal Generator

Frequency 155 Kc. to 110 Mc. Seven bands! £47 (plus 10% tax).



★ Transpro Valve and Circuit Checker, for A.C. and 6 volt operation. Slightly shop soiled. Sacrificed at £27/10/-.

★ Full range of University Meters available. Volts, Mils, Amps., Microamps, etc.

★ Magnavox Speakers 10 in. P/M 38/5W, 38/6. 10 in. P/M 38/6L 42/6.

★ Square Flares for 8 in. Speaker, 40/-.

★ Speaker Mono Flare for outside P.A. work. Sult 10 in. Speaker, 47/6 each NET.

★ 4 uF. 600 volt Tubular Condensers, 1/3 each net.

★ Amplifier Cases, 53/6 each.

★ 350 Ma. 385/385 Power Transformer, 70/-.

★ Full range Agilis Insulators, stand off and feed through, available.

## PICK-UPS SACRIFICED!

★ Well known make, Replaceable Needle Pick-up for general use, equipped with type L40 Astatic Crystal Cartridge—67/6.

★ Well known make, Crystal Pick-up with permanent built-in sapphire stylus. Uses LP6 Astatic Crystal Cartridge—85/-.



## LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Price: 12 in. £7/19/6 net.

# VEALLS

243 SWANSTON STREET, MELB. FJ 3145

299 CHAPEL ST., PRAHRAN. LA 1605

Mail Orders Box 2141T, G.P.O., Melbourne

Ass. with ARTHUR J. VEALL Pty. Ltd. Est. 1911.

# ELECTRONIC A & R EQUIPMENT

## ANNOUNCEMENT!

# A & R MODULATION EQUIPMENT IS NOW AVAILABLE

**MODULATOR Type M2-75** is a complete unit with Standard 10½" Panel and Chassis and including high impedance microphone pre-amplifier, driver stage, 807 triode Class B final stage, and a negative peak clipping circuit. It is capable of 75 watts output in the frequency range 200-7000 c.p.s. when used in conjunction with suitable power supplies.

The modulation transformer is carefully designed and is a semi-universal type providing adequate primary and secondary taps for many modulator and transmitter valve combinations. It is fitted with an adjustable protective spark gap, ceramic insulators, and the mounting is reversible.

**MODULATOR Type M3-75** is similar but does not include the pre-amplifier section. The input impedance is 600 ohms, transformer coupled to the driver valve, requiring an input level of 0 d.b.m. (0.75 volt, 1 mW.) for full output.

Major components such as Transformers, Cabinets, Chassis and Panel, etc., may be purchased separately if so desired. A descriptive leaflet showing full details, illustrations, circuit, parts list and prices is available on request.

## A & R ELECTRONIC EQUIPMENT CO. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

PHONE: LA 3657

Available from:—

WM. WILLIS & CO., Bourke St., Melb. (MU 2426).  
J. H. MAGRATH & CO., 308 Lt. Lonsdale St., Melb.  
(Phone: Central 3888).

Wholesale Distributors:—

R. H. CUNNINGHAM & CO.,  
62 Stanhope St., Malvern, S.E.5 (Phone: UY 6274).



# AMATEUR EMERGENCY WORK DURING KEMPSEY FLOODS

By CRIEFF RETALLICK, VK2XO, and HUGH STITT, VK2WH

For the third consecutive month, N.S.W. Amateur Radio Stations have supplied emergency communication from isolated areas, when normal services failed. The third occasion was during late August when Kempsey was devastated by flood waters. Reports on the previous activity have been given in this magazine. Again Amateur Radio added to its previous fine record of public service.

The first request for Amateur co-operation was made by the authorities on the evening of Friday, 26th August, when Crieff Retallick VK2XO, of Raleigh, was requested by P.M.G. Technicians, Mr. Vince MacDougall of Kempsey and Mr. Eric Spring of Grafton, to stand by and contact the P.M.G. Emergency Flood Station at Lawrence VL2JA on 5390 Kc. The first request was made at 2100 hours and contact was established cross-band from 3.5 Mc. at 2330 hours. Tests were carried out and instructions given to VK2XO.

Saturday 27th saw Doug Gilk VK2SH and VK2XO in contact at 0730 hours on 7 Mc. VK2XO reported that the a.c. supply to Kempsey had failed and that high tension poles had been carried away by flood waters. Enquiries were also made about the whereabouts of VK2ZS and VK2ASF, Kempsey's most active Amateurs. VK2SH informed him they had left for Sydney. VK2SH then on monitored VK2XO's frequency.

As arranged at 0900 hours, VK2XO and VL2JA made contact and continued on half hourly schedules. The flood position at Kempsey had deteriorated and it was known that Kempsey was completely isolated and out of contact by telephone. Incidentally all areas north of Kempsey were out of communication with the south.

A general call for assistance was transmitted on 7 Mc. by VK2XO, as was a similar message relayed over National Station 2NR. Within a few minutes VKs 2ARE, 2JK, 2ARY, 2UR, 2UC, 2TB, 2CU, 2ADX, 2SH and others were all standing by for emergency work with VK2XO acting as control station. VK2AA, official P.M.G. Station, called on the net frequency and requested that traffic be sent for Bellingen and area, and Harry Milne VK2ARY of that town relayed VK2AA of the telegrams. Traffic between these two stations was handled throughout the day.

A request was made from VL2JA that VK2SH endeavour to establish telephone contact with Kempsey, but Doug reported that this was impossible at this stage. Earlier at 0800 hours, Kempsey Post Office reported two feet of water in the telephone exchange and from then on no news had been received.

VK2AER broke into the net to inform VK2XO that two battery operated portable radio stations were housed in the Forestry Department's office at Kempsey. This information was relayed on to VL2JA by VK2XO.

First news from stricken Kempsey came via Amateur Radio when at 1330 hours Chas Peddell VK2ZKN opened on

7000 Kc. and broadcast a QST for the urgent despatch of Army Ducks to the area for rescue work. VK2ZKN stating he had no receiver operating. This QST was received by VK2XP of Dubbo who relayed the message to the local police, he also informed the net of the position giving VK2ZKN's frequency. VK2XO immediately broadcast a request that Amateurs listen out for VK2ZKN in Kempsey. By 1415 hours a receiver was in operation at VK2ZKN and Chas established contact with Bill Allworth VK2OE of Maclean and the request for Army Ducks was relayed to VL2JA from VK2OE.

The 7 Mc. band, by this stage, was a hive of activity. Police messages, telegrams were flashing back and forth and Amateurs were performing valuable work.

Five channels operated from the flood area; VK2ZKN from Kempsey, VK2ARY from Bellingen, VK2XO from Raleigh, VK2DX and VK2DZ using an FS6 and operating from the Macksville Police and at Clybucca Mr. N. C. Harrison of the Dept. of Civil Aviation operated a No. 11 set lent by VK2ADN to a relief party which left for Clybucca from Coff's Harbour.

It is extremely difficult, if not impossible, to clearly trace the events in emergency communication that happened during the remainder of Saturday. Some of the work performed included the following: VK2CU monitored VK2ZKN's frequency and passed information to VK2XO for relay to VL2JA. VK2AA established communication with the R.A.A.F. Catalinas flying over Kempsey and informed VK2ZKN that the aircraft was operating on 4495 Kc. Chas was able to contact the planes flying overhead and greatly assisting in the direction of relief work. VK2AQQ passed news to the R.A.A.F. VK2ZKN later in the afternoon requested permission for the handling of press; VKs 2AKA, 2GC and 2WH assisted and VK2AA obtained permission.

The first press message of 384 words was cleared after great difficulty. VK2ZKN was only using very low power and many stations assisted to fill in the gaps in the message. Hugh Stitt VK2WH at Forbes seemed to receive VK2ZKN best of all and provided many fills. Nearly three hours elapsed before the message was finally cleared. Many telegrams were also handled between VK2ZKN and VK2AA. VK2ZKN finally closed at midnight after a contact with VK2SH.

The greatest problem during the evening was that of commercial interference from two ZK stations. VK2ZKN operated on 7,000 Kc. and the two ZK stations were about a kilocycle outside the band. The resultant din can easily be imagined. At one stage Chas tried c.w. and as he had no key tapped two wires together. The keying was excellent under the circumstances, but the chirp from the emergency equipment made it impossible to copy.

VKGS, the Newcastle Police Station on 4,400 Kc., was also contacted by VK-

2XO and stated that the Army Ducks were standing in readiness for departure. These Ducks left for Kempsey during the afternoon Jack Brand VK-2ADX earlier during the day informed VK2XO of the availability of the Ducks. During Saturday evening the Ducks lost radio contact with their base and Amateur Stations were requested by h.c. stations to listen out on 6,235 Kc. and report progress on the trip north.

Sunday morning saw the emergency nets re-established at 0700 hours. VK2WH and VK2ZKN were in contact. VZSY, Mascot Aerodrome Station, notified they would stand guard on 7,000 Kc. VK2AA, VKGS and VK2XO all opened on that frequency. Message handling continued throughout Sunday, many stations again co-operating.

Other activity included: VK2SH handling police messages from Port Macquarie to VK2AA Sydney, VK2DX from Macksville requesting urgent supplies and Clybucca also opened up. Clybucca's first CQ was answered by VK2ARY and VK2AQQ and with the assistance of VK2GC and VK2ASM messages were passed to official station VK2AA by phone. VK2FZ also assisted in the receiving of the messages from Clybucca.

By evening the position in the flood area had improved and at 1745 hours VK2AA reported no outstanding traffic. It was interesting to note that practically all this emergency work had been performed on telephony except for the handling of some of the telegrams.

VL2JA, main station of the P.M.G.'s Flood Emergency Net, was active right throughout the emergency. Operating with 200 watts on 5390 Kc., they were worked duplex by VK2XO on 7 Mc. The P.M.G.'s flood network extends to the Queensland border and converted 109 sets operate from the following locations: Murwillumbah, Tsalgum, Lismore, Nimbin, Kyogle, Bangalow, Woodburn and Copmanhurst. All stations operate on 5 Mc.

All credit must go to Chas Peddell VK2ZKN for his sterling effort in operating under great difficulty. Chas set up his emergency equipment at the Police Station at Kempsey, using vibrator power supplies. He kept the town in contact with the outside world for 36 hours when no other form of communication was available.

It was a clear demonstration of the value of Amateur Radio as a National asset in times of emergency. Amateurs gave full co-operation to official stations VL2JA, VK2AA, VZSY and VKGS at all times; the latter had the responsibility of routing the traffic handed.

The emergency net, during the weekend, developed into a State wide hook-up and the following stations assisted either by relaying messages or acting as guard stations: VKs 2KN, 2AKA, 2WH, 2XO, 2ARY, 2OE, 2CU, 2UC, 2SH, 2LH, 2XP, 2ADV, 2LN, 2GC, 2AIM, 2ASM, 2CI, 2PC, 2DZ, 2DX, 2CZ, 2TG, 2AHZ, 2AQW, 2ADX, 2GI, 2VR, 2TE, 2SR, 2CQ, 2DO, 2AX, 2NY, 2SZ, 2DS, 2AMM. Apologies to any Amateurs missed in the above list.

Here in Australia the elements are generally fairly kind to us, but in these rare times of emergency the VK Ham has shown his ability to perform one of his necessary functions, that of providing communication when other methods fail.

# THE OLD MAN

The Remembrance Day Contest is over, and what a grand contest it was, what a pleasure to work those fine operators. Seriously, I'm supposed to comment on bad signals, but one felt very proud of the operating skill of those boys on c.w. They certainly rattled those numbers through and the short "Good day Bill," "Good luck old son," gave one that warm feeling of friendship and rivalry; let's have more of these type of contests. It was noted that although participants were asked not to select three consecutive numbers, there is always the fellow who wants to be different. Didn't you get your "Amateur Radio" in time 6DX to read the rules?

There are times that I want to listen to an Interstate broadcast on 7196 Kc. and inevitably I find a few who admit they are not aware of the time and wonder if they might be causing interference. Why, oh why, must you pick 7196 Kc. on a Sunday morning when the Interstate Institute Broadcasts are

on? Noticed on this frequency one Sunday morning recently were VKs 2AHM, 3FC and 3GZ and did they mess up the broadcast from an adjoining State.

Why is it that you fellows take exception to using the phonetic alphabet? It proved itself during the War and is laid down in the Regs., for our use by the Department, but still we hear "this is VK2LK Two Leaping Kangaroos," or "this is VK6 Mexico Kilowatt." How much easier it is for the Station overseas to decipher Two Love King than to listen to Two Leaping Kangaroos.

VK2JP has again been in evidence, with his persistent jamming of local stations, trying to work that elusive bit of DX. Just how you get away with your obvious flouting of the Regulations in passing "Messages," and I mean third party messages, makes one wonder what the Experimental Advisory Committee is doing in your State. Either they deliberately do not hear you or put it down to your dotage.

The splatterers are still going strong; VK4DO, VK3UO, VK2BX and VK2JP are having a neck and neck race to become the worst offender. The same thing applies here as in the former paragraph, either the E.A.C. in the States concerned are not doing their jobs or are turning a deaf ear to this worst type of offence.

The worst signal in the Contest emanated from South Australia and VK5VO was heard on with a c.w. signal that would have been outlawed way back in 1929. Why not try a Clapp OM, it's a very simple circuit and even you should have no trouble in getting it going.

The phone in the c.w. band on 7 Mc. is still cropping up, in spite of the "Gentlemen's Agreement." Are you, or are you not, a gentleman VK3HV? You were heard there recently trying to blast your way through dozens of c.w. signals.

The key click merchants are again in evidence, just a small choke and a condenser and resistor fellows. VKARA and VK3AAW should have heard of this method of reducing clicks, but one wonders.

Numbers of stations have been heard butting into QSOs already in progress and flipping their carriers on and off without any mention of a call sign. This is particularly noticeable in the various hook-ups of country Hams on Sunday mornings. The Regulations state very definitely that the call sign of the station transmitting and the call sign of the station being worked, must be announced on each over.

With all this criticism I feel that a word of praise may not go amiss, and I hand top place to those VK6 Hams who participated in the R.D. Contest. Without exception their signals were outstanding, their operating procedure excellent, and if they win the Contest it will be well deserved. Cheers until next month.



## WIRELESS LICENCES MUST BE RENEWED

### TUNE IN WITH AN EASY CONSCIENCE

Every person must hold a yearly broadcast listeners' licence for each receiver in his or her possession, whether in the home, place of business, holiday residence, motor car, or elsewhere, including portable sets.

The Australian Broadcasting Act provides that unlicensed radio sets are liable to seizure and the owners to heavy penalties.

*Licences may be obtained from  
Post Offices*

**RENEW EACH RADIO LICENCE PROMPTLY!**



THE  
BEST  
VALUE  
IN VK

Modern Attractive

## QSL CARDS

YOUR DESIGN or OURS  
Prompt Efficient Service

Write for Quotes and Samples

**FRANK MAHER**

209 Melville Road

Pascoe Vale South, Victoria

Interstate Orders Accepted

## QUESTIONS AND ANSWERS

In August issue of "Amateur Radio" VK4AG asked for information on the FL-5-E Radio Filter. We are indebted to W0SGK for his reply in this matter.

"While I may be in error, not having one of the Filters in question on hand, I'm of the opinion that this is one of the aircraft 'Range' filters used in planes for monitoring low-frequency radio range beams. In the U.S. we have a network of ranges in the 200-400 Kc. region. One carrier is sent out from four vertical towers, another carrier sent out from the centre tower, just 1020 cycles off the outer tower carrier frequency.

"The outer towers are modulated with c.w. signals, 'A' and 'N,' transmitted from opposite towers. The centre carrier is voice modulated with weather reports, transmissions to planes not otherwise equipped with radio gear, and the like. These filters are therefore so arranged that they may be switched to reject all but 1020 c.p.s., in 'range' position. To reject 1020 c.p.s. and pass all others, in 'voice' position, or may be switched out of the circuit entirely in 'normal' position. Thus, a pilot may 'fly the beam' or receive weather reports, landing instructions, whatever he prefers, while another pilot may be desiring the exact opposite without any interference between the two.

"Signal Corps equipment was standardised with two impedances—headphones were 8,000 ohms and 600 ohms. Output transformers in receivers were 4,000 ohms, to handle two phones in parallel, and in most cases were tapped at 600 ohms. The FL-8 series were the high impedance filters and the FL-5 series were the 600 ohm type, both in and out. These were made by different manufacturers, and in some cases had minor modifications to specifications. The last letter indicated either manufacturer or modified type, but to my knowledge never indicated a radical departure from operating specifications.

"All things considered, it appears that he has a nice gadget to use in cleaning out QRM on c.w.—600 ohms in, 600 ohms out. Some lads over here complain that the 1020 cycles tone is too high pitched and have done some tinkering with these filters to try to change the pass frequency. I haven't heard of their being too successful. I've never torn into one; have a FL-8-B, myself."

## AMATEUR STATION INSPECTIONS

Inspections of ALL Amateur Stations are to be carried out within the next few months.

Under P.M.G. Regs. 61 and 62, it is necessary to have available the station licence and the operator's A.O.C.P.

Log Books and records of tests and experiments are also to be available for inspection. Wave meters and/or frequency meters to be viewed.

Where possible, Amateurs are requested to arrange for access to their stations during the day by leaving a key or authority to enter with a responsible person.

No equipment will be turned on except in the presence of the licensee.



a **BIG** advance in design

Radiotron's latest valve release

A.C. miniatures for 6.3 volt supply.

● Top performers on broadcasting.

● Outstanding on short waves.

# Radiotron



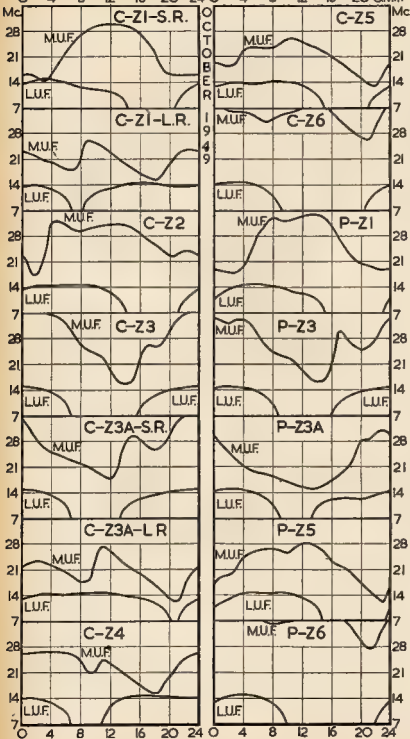
MADE IN AUSTRALIA

## Amalgamated Wireless Valve Co. Pty. Ltd.

47 YORK STREET — SYDNEY, N.S.W.

# IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

O 4 8 12 16 20 24 O 4 8 12 16 20 GMT.



## DISPOSALS

The following is a copy of a series of questions asked in the Federal Parliament. The answers supplied by the Minister responsible are very interesting. These questions and answers were published in Hansard.

### QUESTION—

To ask the Minister representing the Minister for Supply and Development:

(1) Has the Disposals Commission been in the habit of selling wireless parts by private negotiation to the Wireless Institute at prices lower than obtainable at public auction.

(2) If so, what is the total quantity of such sales made during the past three years.

(3) If the quantities sold are sufficient to enable the Institute to enter into competition with other traders who buy at auction, does the Government intend to continue such sales?

(4) As the goods are, or were, Commonwealth property, what was the reason for the departure from the usual sales procedure.

### ANSWER—

(1) The Commonwealth Disposals Commission sells wireless parts direct to the Wireless Institute but only at prices which are at least equal to those obtained for similar items at auction.

(2) During the past three years, sales to the Wireless Institute throughout the Commonwealth have been in the vicinity of £11,800.

(3) The Wireless Institute is not a trading organisation and with each order gives an undertaking that the items are for personal experimental use of its members and not for re-sale by members. The Commission has been advised that each member of the Institute has signed a special undertaking not to re-sell equipment purchased for them by the Institute. The Commission proposes to continue selling to the Wireless Institute.

(4) The approved sales procedure of the Disposals Commission provides that after the requirements of Government authorities have been met, special consideration will be given to the needs of bodies engaged in educational, charitable, health, and general community activities. The Wireless Institute is regarded as an educational body as it exists for the encouragement and scientific development of radio communication. Amateur radio enthusiasts operate under a licence from the P.M.G.'s Dept. which prohibits the use of their equipment for pecuniary gain. Members give valuable community service in times of emergency and rendered outstanding service to the Commonwealth during the war. In addition to supplying trained operators for Navy, Army and Air Force Signal Corps, they assisted the operations of Air Observation Posts by reporting the movements of aircraft. It is in the interests of the Commonwealth to encourage members of the Institute by enabling them to obtain their requirements without the necessity of purchasing at enhanced rates through radio dealers.





# NEW ADDITIONS TO THE FAMOUS EDDYSTONE RANGE



## SEMI-AUTOMATIC MORSE KEY

As the illustration shows, this key is of really modern design, being totally enclosed in a streamlined diecast housing, which is finished a fine ripple black with chrome relief. The movement has received special attention and is a fine example of first class light engineering. Words cannot do justice to the beautiful action, you must try the key for yourself to appreciate it. It is fully adjustable to enable any operator to make full use of the wide range of speeds provided. The handle has been designed to give equal facility to right or left handed operators. A short circuiting switch is fitted to the base, which is a heavy diecasting provided with rubber feet and with holes for screwing down.

Cat. No. 689, £5/6/3 (plus tax).



## SIGNAL STRENGTH METER

This "S" Meter has been designed primarily for use with the "640" Receiver. It is contained in a neat diecast housing, finished a fine ripple black to match the Receiver. The necessary resistors, including the zero adjuster, are fitted inside. The meter, which has a 200 microampere full scale deflection, is calibrated in "S" units and decibels above S9, on the basis of a 4 db increase in carrier strength for each "S" point. The leads terminate in an octal plug, or permit direct connection to the socket on the rear of the "640" Receiver.

Cat. No. 669, £9/3/9 (plus tax).



## MODULATION LEVEL INDICATOR

This instrument is contained in a neat diecast box, finished a fine ripple black. The circuit employs two Germanium Crystal Rectifiers. The small pick-up aerial provided, plugs into a socket on top and a socket at the rear takes a coil for the particular frequency band in use. No external connections are necessary. In use, the R.F. pick-up is adjusted until the meter reading coincides with a special mark on the scale. On switching over, modulation percentages can be read off instantly against the directly calibrated scale. In addition, the instrument may be used as a phone monitor, a telephone jack being provided at the rear for this purpose. The meter itself is a very sensitive one (200 microamp. full scale deflection) which permits the instrument to be used as a field strength meter. In the latter service, it will assist materially in such experiments as lining up a beam aerial, determining radiation patterns, effect of variation of coupling and matching systems, etc. The calibration holds good over the whole range of Amateur Bands, up to 28 Mc.

Cat. No. 678, £14/7/- (plus tax).

## Now Available from . . Your Local Distributor

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- VICTORIA: WILLIAM WILLIS & CO., 428 Bourke Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- WEST. AUSTRALIA: CARLYLE & CO. LTD., Hay St., Perth, & 397 Hannan St., Kalgoorlie.
- WESTERN AUSTRALIA: ATKINS (W.A.) LTD., 894 Hay Street, Perth.
- QUEENSLAND: CHANDLERS PTY. LTD., Corner Albert and Charlotte Sts., Brisbane.
- SOUTH AUST.: GERRARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool Street, Hobart.

# 1948 VK-ZL DX CONTEST RESULTS

The following are the results of the 1948 VK-ZL DX Contest as received from the N.Z.A.R.T. These are as yet incomplete and the full list of entrants, with scores, will be published as soon as received.

Approximately 300 logs were received in all. The prizes will be despatched to the winners very shortly, and two plaques, and certificates, will be sent by the N.Z.A.R.T.

## VK TRANSMITTING—C.W.

### Open—

VK3EG .... 113,318 Pts.

### Highest District Scores—

VK2DG .... 91,834 Pts.

VK2RA .... 113,318 "

VK4XJ .... 4,491 "

VK5FM .... 25,984 "

VK6RU .... 35,430 "

VK7RI .... 15,287 "

### Highest Individual Band Scores—

VK2RA .... 1,482 Pts. 40 Metres

VK2DG .... 91,834 " 20 "

VK2RA .... 384 " 11 "

VK2YL .... 15,840 " 10 "

VK3EG .... 1,564 Pts. 40 Metres

VK3EG .... 111,114 " 20 "

VK3XK .... 480 " 11 "

VK3HT .... 7,168 " 10 "

VK4XJ .... 27 Pts. 40 Metres

VK4XJ .... 3,420 " 20 "

VK4XJ .... 1,044 " 10 "

VK3JE .... 880 Pts. 40 Metres

VK5FH .... 53,615 " 20 "

VK5FM .... 3,040 " 10 "

VK6RU .... 27,846 Pts. 20 Metres

VK7RK .... 189 Pts. 40 Metres

VK7KB .... 28,028 " 20 "

VK7JT .... 2,168 " 10 "

## TRANSMITTING—PHONE

### Open—

VK2AHA .... 39,535 Pts.

### Highest District Scores—

VK2AHA .... 39,535 Pts.

VK3LN .... 33,016 "

VK4KS .... 24,864 "

VK5 .... No. Entry

VK6KW .... 16,735 Pts.

VK7AZ .... 33,970 "

### Highest Individual Band Scores—

VK2AHA .... 34,800 Pts. 20 Metres

VK2ADT .... 12,600 " 10 "

VK3LN .... 32,916 Pts. 20 Metres

VK3QK .... 3,336 " 10 "

VK4KS .... 24,864 Pts. 20 Metres

VK6KW .... 10,465 Pts. 20 Metres

VK6HL .... 9,440 " 10 "

VK7AZ .... 31,400 Pts. 20 Metres

VK7AZ .... 2,170 " 10 "

## RECEIVING—

E. Trebilcock, Wynyard, Tasmania, B.E.

R.S. 195, 59,965 Pts., Phone, C.W.

A. J. Gibbs, Mt. Hawthorne, Western

Australia, 18,912 Pts., Phone.

A. E. Moore, Brisbane, Queensland,

12,510 Pts., Phone.

## PRIZES FOR 1948 VK-ZL DX CONTEST

As the lists of prizes for the 1948 VK-ZL Contest is not as yet complete, it is regretted that they cannot be announced in October's issue of the magazine. Listen to the W.I.A. broadcasts for news of the prizes.

# W.A.S. (AUST.) RULES

1. This Award has been created in order to stimulate interest in the v.h.f. bands and is of a high standard to fully acclaim the proficiency of the recipients on their v.h.f. achievements. The award is to be known as the W.A.S. (Aust.) Certificate and is to be sent to any Amateur in Australia or overseas who satisfies the following conditions:

2. The Certificate will be awarded for contacts on the 50 Mc. band and higher frequency bands. All contacts must be made on the same band, and cross-band contacts will not be allowed.

3. Portable operation will be permitted provided that such portable location shall be within the same State and not more than 53 miles from the fixed location in the case of Australia stations, and in the same call area and not more than 100 miles from the fixed location in the case of overseas stations.

4. The applicant is required to submit verifications from the following areas of the Commonwealth of Australia—

(a) New South Wales, Australian Capital Territory, or Lord Howe Island.

(b) Victoria.

(c) Queensland.

(d) South Australia.

(e) Western Australia.

(f) Tasmania.

(g) Northern Territory.

In all, seven (7) verifications are required.

5. Additional credit will be given for verifications from other overseas countries, say, New Zealand or the Territory of Papua and New Guinea, in the form of a sticker to be attached to the Certificate.

6. It will be necessary for the applicant to produce documentary proof in the form of QSL cards or other written evidence which completely verifies

a two-way contact has been made. By completely so must that the time and date, signal strength, type of emission used, location of the claimed station and the frequency used must all be clearly shown on the verification.

7. Contacts may be made using any authorized type of emission, but must be in accordance with the current P.M.C.'s Regulations or those applying in the country of the applicant.

8. Submitted verifications must be exactly as received and not altered or marked. Failure to comply with this rule will lead to the disallowance of that card and may lead to the disqualification of the applicant.

9. All applications must be accompanied by a list setting out the details required by Rule 6, and stating whether any of such contacts were made while portable, and if so, giving that location. Sufficient postage must be enclosed for the return of verifications to the applicant, registration being included if desired.

10. The verifications and list (Rule 8) will be addressed to the "Awards Committee, Box 5011W, G.P.O., Melbourne, Australia."

11. The verifications so submitted will be examined by the Awards Committee, who will arrange for the successful applicants' names and call signs to be listed monthly in "Amateur Radio." Certificate will be forwarded to successful applicants through Divisional Councils or direct to overseas applicants as the case may be.

12. The decisions of the Awards Committee of the W.A.S. regarding the interpretation and application of these rules shall be final.

13. Notwithstanding anything to the contrary, the Federal Council of the W.I.A. reserves the right to alter these Rules from time to time as necessary.

# "Q'S" WORLD-WIDE DX CONTEST

For the 1949 Contest, separate 48-hour periods for phone and c.w.—awards for individual and group-operated stations—no limit on contacts per country and a special feature, awarding prizes for the highest 1-band scores as well as multi-band scores.

1. Contest Period.—PHONE SECTIONS: 0900 G.M.T. OCTOBER 19 TO 0900 G.M.T. OCTOBER 21. C.W. SECTIONS: 0900 G.M.T. NOVEMBER 5 TO 0900 G.M.T. NOVEMBER 7.

2. Bands.—The Contest activity will be confined to three Amateur Bands: 7, 14, and 37/28 Mc.

3. Competition will be divided into four sections as follows:—

(1) One-operator phone section.

(2) Multiple-operator phone section.

(3) One-operator c.w. section.

(4) Multiple-operator c.w. section.

Stations in both phone sections may contact each other, and stations in both c.w. sections may contact each other, but no contacts between phone and c.w. stations will be allowed.

4. Equipment.—There will be no limit to the number of transmitters and receivers allowed, and competitors may use the maximum transmitter power permitted under the license.

5. Serial Numbers.—C.W. stations will exchange serial numbers consisting of five numerals, the first three being the RST report, and the last two being their own zone number. Stations in Zones 1 through 9 will prefix their zone number with a zero (01, 02, 03, etc.). Phone stations will exchange serial numbers consisting of four numerals. The first two being the readability and strength report, and the last two being their own zone number. Phone stations in Zones 1 through 9 will prefix their zone number with a zero (01, 02, 03, etc.).

6. Contacts.—Contacts between Amateur Stations on different continents shall count three points; contacts between Amateur Stations on the same continent, but not in the same country, shall count one point; contacts between stations in the same country, for the purpose of obtaining zone and/or country multipliers, shall be permitted, but no points will be allowed for these contacts.

7. Multipliers.—Two types of multipliers will be used: (1) a multiplier of 3 for each zone contacted on each band, (2) a multiplier of 1 for each country worked on each band.

8. Awards.—1st, 2nd and 3rd place certificates will be awarded for each of the four Sections as follows:—

A. To the highest scoring stations on each SINGLE BAND in the following areas:—

(a) Each call area of the U.S.A.

(b) Each licensing area of Canada and Australia.

(c) All other countries.

B. To the stations having the highest combined total on ALL BANDS (or more than one band) in the following areas:—

(a) Each call area of the U.S.A.

(b) Each licensing area of Canada and Australia.

(c) All other countries.

Certificates will also be awarded to each operator of each winning station in the multiple-operator sections.

9. Scoring.—The Contest score will be the sum of all contact points multiplied by the sum of the zone and country multipliers.

A. Everyone who sends in a log for a single band is eligible for a single band award only.

Those who submit logs for two or more bands will be eligible for the all band award, as well as the single band award.

10. Zones and Continents. The W.A.S. boundaries as defined in "Q's" and the "Q's DX Handbook," as well as the boundaries of the W.A.S. zones, and for continental boundaries, the same as used for W.A.O. will be recognized. Should any question arise as to the positive location of any station, the official delineations will be final. Copies of the country list and contact logs are available from the "Q's" editorial office upon receipt of a stamped, self-addressed envelope or in the case of overseas stations, unattached postage stamp.

## OPERATING SUGGESTIONS

We suggest that overseas phone operators indicate which end of the band they are tuning, or which portions of the phone band (American or foreign) they intend to tune. On 38 Mc., where the band is 1700 Kc. wide, it is extremely important that overseas phone stations specify the approximate frequency they intend to tune. C.W. stations, likewise, should specify, by indicating where they intend to tune. We think if the above principle is used by all, it will result in far less QRM, well as fewer false calls.

Foreign Amateurs, remember, scores are based on the greatest number of different countries and zones as well as stations worked. Do not concentrate on working only U.S. stations. This is a world-wide competition!

# FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

## NEW SOUTH WALES

The contest on 4 metres drew fifty-five stations out all told. As always, contests create considerable interest. No DX broke through, but Canberra was heard on 40 metres. The contest was held in the 2TA also worked. Newcastle district was particularly co-operative. Stations such as 3KZ, 2PQ, 3VU, and 3UP bring phone QSOs in Sydney. The regular like Dave and Jack 2BZ and 3AUV reaching site plus at times. 3VU of Singleton is active again. 20S also firing antenna and been heard in Sydney. In spite of power being eagerly discussed at the contest, the contest got under way, due largely to the efforts of our V.H.P. President, Vaughan Wilson 3VU. He had been called for regarding the contest rules and were to be discussed at the following meeting. This meeting, owing to the oval strike, did not eventuate. Rather than postpone the contest, which was being eagerly awaited, a previous contest rulings were adopted and used. General opinion being favourable except in the matter of duration. Such opinion is in accordance in having shorter contests. Discussion at a future meeting will take place.

3AHO, who has a very fine station, held a "Ham Fest" on the 17th August. Present were 3ADT, 2BZ, 3RU, 3KR, 3HO, 3AR, 3ER who will be on 4 metres over long and six too, we hope. All keen on 4 metres. Bill Jackson, who has been doing combined efforts of eight Hams was required and re-adjust the L/O ratio of a nine watt transmitter tank. "CV" was removed and "E" left. Amateur radio has been held down by using no recreation can have complete relief by using no. The writer was forced to rapid action during the contest and the noise of which makes it impossible to score. Co-operation proved that any rectification was responsible. No trace of h.c. could be noticed on f.m. was used on maximum deviation. All reports were based on f.m. than a.m. although an oscilloscope showed full modulation on a.m. Results very slightly, being dependent upon the weather and the quality of the f.m. a.m. Although the slope is very gradual (alignment also important) the report will say audio down and vice versa. The results are very weak, f.m. as listened to on an s.m. receiver is poorer than a.m. Narrow band adapters are needed and will become general in time. F.M. results in a tremendous saving of gear. Sydney radio, much as seriously interested. Stations contemplating are 3WJ, 3AWJ, 3MQ, 3ABP, 3BZ, and 3VU. The arrangement giving good results used by 3AR is as follows: 6AGT e.c. Clapp oscillator with input on 8.854 Mc. 65A resistance modulator connected to the grid. The circuit is similar to the one described in Sept. "A.R." The fifth harmonic is used and the next 6AGT (triplex) to 56 Mc. The driver on 8.8 to 9.4 Mc. grid current with 40-50 watts input. It is a three stage grid multiplying the unconventional 13 times and is simplicity itself. The pre-amp can be used to feed the 85A7. This rig also provides an excellent driver f.m. rig for 3 metres. The Clapp is tuned to 9.3 Mc. The 815 now receives 46 Mc. and is loosely coupled to an 8B8 tripler to 184 Mc. which in this case drives an 8B8B to 170 watts on 2 metres. As a result of this, further frequency multiplication (43 to 101), the device is sufficient for broader receiver on 2 metres. Due to low start of the C.E.C. telegraph conditions for your tubes when f.m. is used. Reports indicate better quality on f.m. than a.m.

Realising how difficult it is to make full use of the high g.m. modern v.f. valves, several of the stage have been used in a contest to achieve high input loading. We may well ask ourselves what a.m. we realise in circuit with the v.f. stages of receiver? Regeneration and noise are synonymous. A wide frequency range is provided, the answer to the reason for consistently being heard in Sydney. Arch has efficiency all-round. The final is disc type condenser tuned. The receiver uses 8B1 (VHF) and 8P80 mixer. In a triple conversion job finishing up at 80 Mc. While on visit, in daytime a Sydney station was heard very well. The location has not favourable features in as much as the ground falls away in front and towards Sydney. However, 3TA, of Young, is worked over immediately rising ground.

## VICTORIA

Surprise of the month was the break-through on the 14th of August, during the Remembrance Day Contest. Although the contest was advertised to be for their scores. DX stations worked were 4HU, 4AT, 4FN, 4XN, 4GU, 4LN and 4KZ. The 4Xs on 40 metres. 3AUV, 3KR, 3SM, 3AC, and 3BZ. The 3BZ was very high, but very high, but very fading was rather severe. A selective effect was noticed with the ship alternating between VK3 and VK4. It is of interest to note that the band has opened in June, July, August, at exactly 37 days intervals.

With the improved weather in Victoria, conditions as far as country stations are concerned have been noticeably better, with 3AUF and 3UJ putting through much steeper and more reliable signals than they have during the previous months. It is hoped that a Melbourne to Sydney six metre relay will be possible before long. The only gap now to be covered is the one between 3UJ or 3AUF and 3BW, a distance of about 150 miles.

In Melbourne the V.H.P. Marathon has ceased a few more into the band, however there is plenty of room for more. A new station to appear during the month was 3AUX of South Yarra who is putting out a good signal from a single 807 and dipole antenna. 3BQ has at last been heard on 4 metres, he is not hampered by lack of space or (we hope) h.c. troubles. Eric is now at Glenferrie and has to have a 4 element beam up 55 feet before very long. He is putting out a very strong signal from a temporary dipole, so should be one of the best signals on the band when the beam is up.

## 144 MC. ACTIVITY

New South Wales.—Two metres has been rather quiet. Much preparation though is taking place. Activity amounts to cross-band working mostly 2BZ has 65 watts on a 8B8B to 3 over 3 and can receive-band Sydney almost any time. 3ADT has a 3BQ also nearly installed 2 and will be audible in Sydney soon. Looks as though we need a cross-band contest! 3LY has 820 and is fixing 3 metre gear. Stations heard with very good signals recently on this band are 3XQ (xial) and 3XU (xial), 3AWE (xial), 3ABZ (xial), 3HO (xial), and others. 3AAJ puts 5 meter off scale on horizontal beam.

Victoria.—Activity on this band continues at a high level with new stations 3OP and 3BE making an appearance, while several others are getting receivers and transmitters going and should be on before this appears. 3ARE of Geelong has been carrying out some interesting antenna tests. Ed now has three antennas available. One is a 16 element beam at an average height of 35 feet, a 3 element beam 40 feet high co-ax fed, and a 3 over 45 feet high fed with 8B8 thru line; the last antenna appears to give the most reliable signal both transmission and reception, allowing several Melbourne stations who were difficult to work previously to be copied with ease.

In Melbourne 3UJ has reappeared on the band after a couple of months absence. Andy is busy building a 4 element beam and a 16 element beam. The new beam will be much higher than the old one.

Over the weekend of the 3rd and 4th of September, 3AD and 3UJ to 3VU, 3UJ to 3BZ, 3BZ taking with him the 144 Mc. converter. Using a 3 element beam 44 feet high as antenna, 3ABA and 3BW were worked cross-band. 3BZ was extremely strong signals over this 42 mile path. Several other stations on 144 Mc. were also heard at good strength. Due to being very busy building a new house, Bert and Gwen did not be on 144 themselves for several months.

## 2BZ AND 576 Mc. ITEMS

Victoria.—At last a move to populate this band is under way in VES. 3AUF and 3AWE have already been testing out gear; 3UW hopes to be on with an 807 and an 815 and 3VU is also working on it and several others are planning gear. This band should prove very useful for the simpler type of gear now that 144 Mc. is entirely crystal controlled in VES. Provisionally it has been decided to use vertical polarization.

At last the 576 Mc. gang have finished the other tasks connected with the 576 Mc. that have been holding them back from the band and are preparing to start fresh. 3UW is obtaining a pair of 801As from England and hopes to be running 80 watts before long. This will be quite a change from the low power previously used and should make a great difference to signals. 3QO has also obtained an 801A, however there is some doubt as to whether it is a good one or not.

## "TWO AND SIX" JOTTINGS FROM N.S.W.

3AC has beam and f.m. receiver on 6, but not much time these days. 3BQ hangs things when power leak stops and works 20U. Delighted with cross-band two and six. Dave starts lots of things and used 2 metres nearly two years ago. Also f.m. 2DF has tremendous signal when using out-door antenna. Has discriminator going on 6 and says f.m. stations sound excellent. 3XU's phone line and hope for more QSOs. 2NO would like to build more, but very busy now. 2BU says transmitting on 2. 2UD produces better than any other. 2VU is now 3WV rebuilding f.m. v.f. and receivers. 2VL also c.w. and phone in Sydney Harry. 2VU f.m. plus and very nice to listen to. 2XZ worried about harmonics and fundamentals just now. 3TW has a P104 receiver.

3ABC has few contacts now and again. 3ADT on two metres soon. Jack has 2XP (Kuri-Kuri) on 2 and 6 to talk to now 2ADW has a new modulator and halo. Sounds good Dick. 3A2Z Ernie from Gosford nice sig now, beam being 3A2B a beam soon and then Jim will make one sig. 3AMU 3 over 3 on six soon. How about more power Ernie? 3A's watts only come in 144 Mc. six metre transmitter on the way. Beams 3 over 3 on six and two. Also 10 metre beam on same pole. 2AWE 815 and beam on 6, and going well now Dave.

Gladstone Radio Club will be holding a Field Day on Sunday, 15th October. Two metre Direction Finding competition. This type of "Contest Come Field Day" has proved very popular. More details next month.

The 5 metre contest is finished and the unofficial places are 3AR, 3ADT and 3WJ.

The above notes were received from VK3AH and VK3IM.

# Low Drift Crystals FOR AMATEUR BANDS

ACCURACY 0.02% OF  
STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted ... £2 0 0  
Mounted ... £2 10 0

12.5 and 14 Mc. Fundamental  
Crystals, "Low Drift",  
Mounted only, £5.

Spot Frequency Crystals  
Prices on Application.

Regbirds ... £1 0 0

THESE PRICES DO NOT  
INCLUDE SALES TAX.

MAXWELL HOWDEN  
15 CLAREMONT CREES,  
CANTERBURY, E.7,  
VICTORIA

# FEDERAL, OSL, and DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2511W, G.P.O., Melbourne.

## NEW SOUTH WALES

Secretary.—Dick Davis (VK3RP), Box 1784, G.P.O., Sydney.  
Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.  
Divisions.—Sub-Editor for L. D. Cuffie, VK3AM, 14b Watson Street, Neutral Bay, N.S.W.  
Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK3PA, Hill St., Port Macquarie, Newcastle; L. J. Baker, VK3PD, 15 Skilton St., Hamilton, Newcastle; Coastland and Lakes: H. Hawkins, VK3VJ, 37 Comfort Ave., Cessnock; Western: G. J. Russell, VK3QA, 116 Bogan St., Bygonie, South Coast and Tableland: H. B. Ryper, VK3DO, 43 Pettit St., Yass; Southern: E. N. Arnold, VK3QJ, 679 Forrest H.J. Ave., Albion, Western Suburbs; A. C. Pearce, VK3AB, 46 Harsbrook Ave., Five Oaks, Eastern Suburbs; H. Keer, VK3AX, No. 4 Flat, 144 Hewett St., Broome, North Sydney; L. D. Cuffie, VK3AM, 179 Military Rd., Mowbray, St. George; J. A. Ackerman, VK3AD, 35 Park Rd., Carlton; South Sydney: V. H. Wilson, VK3YV, Cr. Wilson St. and Marine Pde., Maroubra.

## VICTORIA

Secretary.—C. O. Cline, VK3WQ.  
Adm. Administrative Secretary.—Mrs. O. Cron, Law Court Chambers, 121 Queen St., Melbourne, C.I.  
Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.  
Zone Correspondents.—North Western: R. E. Trebilcock, VK3TA, 122 Victoria St., Kangaroo, Western: C. C. Waring, VK3WV, 12 Sene St., Stawell; South Western: W. H. Ross, VK3UT, Ballarat, via Warrnambool, North Eastern: J. A. Miller, VK3AD, "Erinlea," Ave., Far North-Western Zone: Harry Dobbin, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. E. M. Churchward, VK3US, "Shirley," Red Hill.

## FEDERAL

### DX C.C. LISTING

As new applicants seem to be in some doubt of the actual Rules for application to DX C.C. membership, we hope to be able to publish next month the Rules now again for general information. The Rules were last published in "A.R." for August, 1947, and amended in Federal Notes for April, 1948.

### PROVE

Zone	Country
VK3AD (1)	84 125
VK3KW (4)	84 125
VK3RU (2)	87 121
VK3DE (5)	87 121
VK3DD (4)	87 121
VK3JE (7)	100 100
VK3IG (6)	100 100

### O.W.

Zone	Country
VK3BZ (8)	40 147
VK3ON (1)	40 148
VK3AV (4)	89 154
VK3QL (5)	40 152
VK3EL (9)	89 129
VK3EK (8)	89 121
VK3ED (10)	89 120
VK3HR (8)	40 119
VK3ED (8)	40 116
VK3DA (7)	88 112
VK3ED (11)	88 112
VK3UM (12)	89 106

### New D.W. Members—

Zone	Country
VK3RO (1)	88 105
VK3APA (14)	86 107

### OPEN

Zone	Country
VK3BZ (4)	40 171
VK3ED (1)	40 159
VK3RU (8)	87 121
VK3JE (12)	89 158
VK3HR (7)	40 145
VK3ED (15)	89 141
VK3WV (13)	89 141
VK3MO (5)	89 138
VK3EK (1)	89 135
VK3ED (10)	89 121
VK3OP (16)	89 129
VK3NS (12)	89 123

### New Open Member—

Zone	Country
VK4UL (27)	93 104

## WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7195 Kc. and 3000 hours EST, 6.04 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7178 Kc.

VK3WI.—Sundays, 1100 hours EST, simultaneously on 7350 Kc., 7195 Kc. and re-broadcast on 80 and 144 Mc. bands. Intra State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 7350 Kc., 7195 Kc., 14442 Kc., 54 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7058 Kc. channel is used from 1900 to 1930 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1900 hours SAST, on 7195 Kc. Frequency checks are given by VK5WD on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sundays 1400 hours, Sundays 0900 hours WAST, on 7195 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7195 Kc. No frequency checks are available.

## MONTHLY LIT

We have received preliminary information (not confirmed as yet) from the International Telecommunication Conference now sitting in Bern, Switzerland, that some time in the near future, Amateurs in the following countries will no longer be able to communicate with other Amateurs. At present we do not know the reasons behind this, but will keep all informed of developments. The countries concerned are—Australia, Burma, French Oceania, Greece, Indo China, Indonesia, Irish, Laos, Lebanon, Madagascar and dependencies, Mauritius, Netherlands, Siam, St. Pierre and Miquelon, Togoland and the Antilles (which covers all the Caribbean island countries).

## W.I.A. ACTIVITIES CALENDAR

Oct. 1-2: 1949 VK-ZL DX Contest (a.w.).  
Oct. 8-9: 1949 VK-ZL DX Contest (phone).  
Oct. 15-16: 1949 VK-ZL DX Contest (a.w.).  
Oct. 22-23: 1949 VK-ZL DX Contest (phone).  
Nov. 25-27 Third European Contest (a.w.).  
Dec. 3-4 Third European Contest (phone).  
Dec. 15: Motions for 20th Federal Convention due.

## I.A.R.U. CALENDAR

The June, 1949, Calendar of the Union contains a resume of the 25 years since the formation of the Union. It was first founded in Paris on the 12th March, 1924, at which time countries were represented. The 1950 I.A.R.U. Congress is also proposed to be held in Paris next year and all Societies have been asked to pass comment on this proposal. Interesting information on the outcome of the Fourth Inter-American Radio Conference and the proposals adopted is given, as well as notification of the Voice of America Broadcast mentioned in last month's "A.R." The United Nations and the I.A.R.U. have reaffirmed their mutual agreement for an additional year ending 1953 April, 1950.

Three proposals for membership review, moved by the W.I.A., at the other major meeting contained in this issue. These proposals deal with matters brought up at the 19th Convention of the W.I.A. in April last. Some interesting figures on the number of licensed Amateurs in the various member societies, which reveal that the W.I.A. have the third highest in the world. The R.S.O.B. are second and of course the A.R.R.L. the first.

## QUEENSLAND

Secretary.—W. L. Stevens, VK3TB, Box 6382, G.P.O., Brisbane.  
Meeting Night.—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.  
Divisional Sub-Editor.—P. M. Shannon, VK3AN, Minden, via Rosewood.

## SOUTH AUSTRALIA

Secretary.—E. A. Barber, VK3KD, Box 1234K, G.P.O., Adelaide.  
Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.  
Divisional Sub-Editor.—W. W. Parsons, VK3PB, 463 Esplanade, Henley Beach.

## WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AO, ? Howard St., Perth.  
Meeting Place.—Fadbury House, Cur. St. George's and King St., Perth.  
Meeting Night.—Watch the Monthly Bulletin.  
Div. and Sub-Editor.—George W. Ashley, VK3GA, 33 Mars Street, Curliak, Western Australia.

## TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.  
Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.  
Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EZ, Anglers Barracks, Hobart.  
Northern Correspondent: C. P. Wright, VK7LE, 5 Knight St., Launceston.

## AMATEURS LICENCED IN AUSTRALIA

As at the 1st August, 1949, the following are the number of licensed Amateurs in each of the districts of Australia—

VIK1—80, VK2—354, VK3—388, VK4—389, VK5—398, VK6—172, VK7—90, VK8—50; total 1,727.

The above figures are those to be used in determining the State winner for the Remembrance Day Trophy.

## 1949 REMEMBRANCE DAY CONTEST

The 1949 R.D. Contest is once again past and, judging by the comments of those who took part, a really bumper Contest resulted. This may well be when it is realised that over 450 Australian stations took part, and some 800 logs have been received. The checking appears to be a big job this year, and is growing to the proportions of the VK-ZL DX Contest. This alone indicates the success of this event.

From a check of those taking part, it appears that the phone stations are greatly in the majority, most operating exclusive phone. This should be truly an open event with a 50:50 proportion of both phone and c.w. The general standard of operating was excellent, and very few poor c.w. signals were heard, but a greater number of phone stations should watch that gain control. To all those who did not enter, we can only say they missed an excellent Contest—next year's should be better still!

## W-V-E 1949 CONTEST

Some preliminary results have been obtained which reveal that in the c.w. section, WBSBW ran up the colonial total of \$90,480, followed closely by WZIO with \$86,586, and WBSKF with \$85,586. Outside of the U.S.A. once again Juss Leboy Lobo (XFLA) continues to pile up "Superman" scores like his 798,311 from 3,051 contacts. Then came OXWAB with 498,420 and 491,223. High Empire scorer was 214Q with \$38,580, FUGU and HABS with \$28,580.

## COMMERCIAL STATION LOGS

By now all State observers should have received their report sheets. It is hoped if possible that each State observer will have access to a typewriter so that a legible log may be furnished to the P.M.G.A. immediately. It is hoped that the type of logs we expect to arrive in the near future, so please endeavour if no typewriter is available, to make a neat job of the entries.



Page 19



- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

## Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.  
Telephone: XW 8367.

Proprietor: GEOFFREY BOWER

## QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.



## McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES  
OBTAINABLE ON SUBSCRIPTION

### AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/8/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

### ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 9/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

## McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.  
(The G.P.O. is opposite)

M 1476-76-77



Amateur Radio to the public who don't know who or what we are, except a lot of cranks who burn midnight oil. All our gear should be suitably labeled, such as what this knob or that switch is for, which tube goes in which socket, what is a.c. line, and do, either, what voltages are used and which contact is which on tag strips. You never know when someone else may have to use your set-up in an emergency.

Which brings us to another point. What would you do in a state of emergency, such as flood, etc. Some of the transient ones, etc., could be operated from primary supplies from what we could see, but we repeat, are you ready?

Well, chaps, we do hope we haven't left anything out from this description, but look forward to your active participation in the next Exhibition.

A special QSL Card with photo of stand will be sent to all stations contacting VKAWI during the Exhibition.

#### SOUTH WESTERN ZONE

Latest news is that the South Western zone are going to hold their Convention about the 19th and 20th of November in Ballarat, but chaps listen to SWZ for further details.

The Quesing gong seem to be doing a bit of DX, as 2VF has a long wire up and 3IC has worked 1ADY. 2BW has Type A Mark III, on 80, and 2CM has been working 21a with 3 watts. 3VT has a Type 3 Mark II, now and running high power of 10 watts. 3ALQ has Mike tonight, but OK now as I hear, and Fred hopes to have new modification trans gone soon. 3ANS will not work on 2 or 7 Mc now, what's the trouble. 3B1 3BU has tried out some 11b1m.

3GH as I.D. name now. He, 3VM, 3VL, and 3H1 want down to see the going at the Exhibition. 3B2 has a new power triable and hopes to be on soon. I wondered if the V1a in Ballarat had you compared Andy. Was sorry to hear that 3LXM had a serious reputation, but of health. Lloyd old pal. Have not heard 3JA or 3BO on 80 of late, but Jack has been off due to the children being sick with some bug.

3LX has the pump motor on his beam, as it won't be long now. Had a turn with 3BQ the other day. Bore, by the way, seems to like the idea of riding on the old grid, he'll be the first it saves his loss. Have not heard 3SL on 80 of late, what's the matter Frank, must be the football. 3PS has

had a spell with the flu. 3HF has everything under control, seeing that he has a nice V1a in the shack talking to the Wa and VEs. Heard Vern on the other day with a better signal, also 3ARK and 3AOD. By the way John, what have you done to 3EL. It seems as though you gave Leigh a dip in his duck pond.

**Quesing Amateur Radio Club**—An interesting Lecture was given by club member Jack Mitchell on "Pulse Modulation." Jack used drawings to illustrate his lecture. The following club night some of the members travelled to Melbourne to see the display of gear at the Models Exhibition by the W.A.A. Many old and new friends were made there. 3ALQ met an a.w.l. whom he had not seen for approx. 12 years. Alf Porter has started on a Radio Course for members on Monday nights following the Wednesday meeting. This should be very interesting as it progresses and a good roll up is expected on the Monday nights before the course has gone very long.

#### SOUTHERN ZONE

Those members of the zone who were fortunate enough to visit the Models Exhibition all voted it a great success, though we are a bit concerned in case our worthy secretary forgets Ham Radio in favor of Model Trains!

Lindsay, 3OH of Stratford, is working a bit, and expects to join in the age book-up very soon. Rumours say that Graham, 3GO is suffering from a bad attack of V1a trouble, which threatens to develop into V1L trouble shortly. We all hope he will be able to join in our book-up after the event. Graham has been busy studying, with the result that he has passed the P.M.G. Technician's exam. Ron, 3LT, and Harold Vining are shift technicians at 3GI. Ron is building a new home, and has an impressive 10 ft vertical mast of water pipe. When are you going to connect a rig to it?

Jack, 3ALJ, is in Melbourne still at a P.M.G. Technician's School. 3ALA, Ted, is on 10 metres with an AT6/ARS. 3ANC has been holidaying at Mullra for three weeks. 3WE has been commended by D24 for his recent work when Onco and District were snowed bound. 3ABC, Doug, has been visiting 3DLE during an evening discussing 3D work with Jim and 3VL. Doug will soon be on from Longthorns. 3VL has been operating his law power emergency set-up from bed, and Brenda,

while taking it easy after an experimental eye operation. 3DN has been setting the rig up for 3VL. 3PR lost his newly-recruited pole in a wind storm. 3YL, 3CL is active on 80, paid a short visit to 3UL of Tatura. Eric, 3ACL, is experimenting with 11b1m.

#### NORTH EASTERN ZONE

As usual no dope from anybody on their radio activities, and from listening everyone must be doing other things, as no N.E. signals heard. The correspondence's mail has been further increased. Mr. Brown, Vex Associate, is sending in anything tasty he hears of. 3JM has had Riley up to 90 mph. 3HP has new Chev. 3JPT not gone to try MG over 60. 3TS thinking of saving Chev. returned, as speed is down to 70. 3ABG has just run in new motor, after blowing up old one. Top speed only about 62. As 3O is in order.

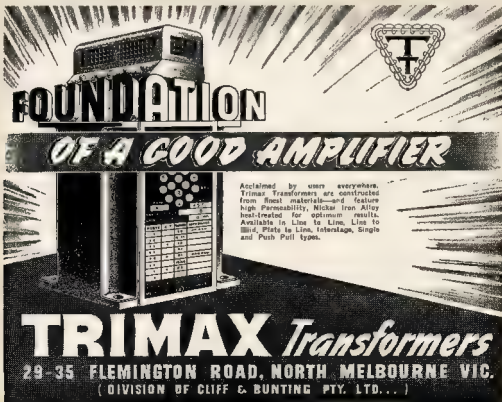
3TS has another 3TS rig going but waiting for new 2 k.w. alternator before going really QSO. 3TV back on his feet after months in bed, but not on the air much yet. 3APP has GRP 552 rig on six. 3AT working on 1m. rig. 3CT did well in R.T. Contest, 3GD changing QTH again. Buy a car from George. 3ACK heard on forty. 3APP bought a new make.

#### QUEENSLAND

The September monthly meeting was held in the new rooms in the Y.M.C.A. Buildings. There were 48 members present. The President JAW welcomed a visitor VEIDE. Two Council reports were presented and this was followed by a long discussion on "Amateur Radio." Everyone present seemed to have something to say on the subject, as members in this Division are not at all pleased with what the meeting having been dealt with, an article by 48K, "Pushing S.S.S.C. To Work," was read by the Secretary.

#### ZONE NEWS

**Downs Zone (400)**—41X finding it hard in the Granite Belt. DK should be "frit" up Stanthorpe way. Solid tower and sleeping up beam.



**FOUNDATION OF A GOOD AMPLIFIER**

Acclaimed by users everywhere, TrimaX Transformers are constructed from finest materials—and feature high permeability, Nickel-Iron Alloy heat-treated for optimum results. Available in Line to Line, Line to Wind, Plate to Line, Interlaced, Single and Push Pull types.

**TRIMAX Transformers**  
29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.  
(DIVISION OF CLIFF & BUNTING PTY. LTD.)







RED



LINE

## Professional Equipment for the Amateur

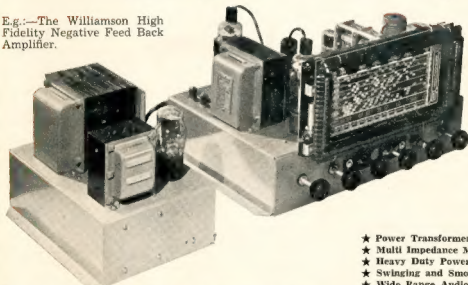
We are specialists in the design of transformers and chokes to individual requirements, and it is practically certain that you will not pose a problem of this nature that our very wide experience and manufacturing facilities cannot solve.

Unlike most manufacturers in this field, we operate our own tool room, press shop and laboratory and this close integration of our internal organisation has been of particular benefit to manufacturers using our products.

### MATCHED KITS

of Transformers for all classes of  
Electronic Equipment

E.g.:—The Williamson High Fidelity Negative Feed Back Amplifier.



- ★ Class B Driver Transformers
- ★ High Tension Plate Transformers
- ★ Output Transformers
- ★ Low Tension Filament Supplies\*

- ★ Power Transformers
- ★ Multi Impedance Modulation Transformers
- ★ Heavy Duty Power Supplies
- ★ Swinging and Smoothing Chokes
- ★ Wide Range Audio Equipment
- ★ Frequency Dividing Networks

\*Insulated for High Voltage if required.

A GUARANTEE



OF

DEPENDABILITY

### RED LINE EQUIPMENT PTY. LTD.

Veall's Electrical & Radio  
Pty. Ltd.  
Arthur J. Veall Pty. Ltd.

Homecrafts Pty. Ltd.  
Radio Parts Pty. Ltd.

NEW SOUTH WALES:  
U.R.D. Pty. Ltd.  
Homecrafts Ltd.

QUEENSLAND:  
S. Martin Pty. Ltd.  
A. E. Harrold.

Howard Radio Ltd.  
A. G. Healing Ltd.

INTERSTATE DISTRIBUTORS:

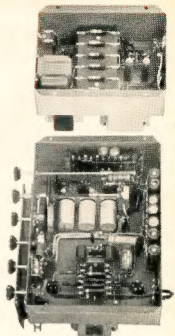
Denradio Industries  
(Maryborough).  
J. Michaelmore & Co.  
(Mackay).

Healing's Pty. Ltd.  
Motor Spares Ltd.

SOUTH AUST.:  
Gerrard & Goodman Ltd.  
Newton & McLaren Ltd.  
Unbehauen & Johnson Ltd.

Warburton Franki Ltd.  
Lawrence & Hanson Ltd.

TASMANIA:  
Radio Wholesalers.  
Lawrence & Hanson Ltd.  
Noyes Bros. (Aust.) Ltd.



Looking for

# SELECTIVITY?

Then try . . .

## "AEGIS" HI-CORE I.F. TRANSFORMERS

Scientifically Designed  
Expressly for the  
Two-Stage I.F. Channel

### INCORPORATING THESE OUTSTANDING FEATURES—

1. Maximum Stability.
2. Excellent Selectivity, particularly types J22/J23.
3. Effects of Tube Loading reduced to a minimum.
4. "Miller Effect" Detuning eliminated.

#### MEDIUM SELECTIVITY—

Type J20 Interstage, Price 13/6 ea.

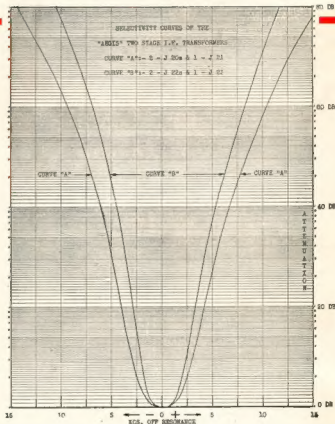
Type J21 Diode . . . Price 13/6 ea.

#### MAXIMUM SELECTIVITY—

Type J22 Interstage, Price 17/6 ea.

Type J23 Diode . . . Price 17/6 ea.

Special Discount to Amateurs!



Obtainable from:—

# AEGIS MANUFACTURING CO.

208 LITTLE LONSDALE STREET, MELBOURNE

or Selected Wholesalers throughout Australia.